

Mechanical Data Sheet

For


Seawater Cooling Pump

CO₂ Capture Facility

Kårstø, Norway

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GASSNOVA			Project No. - Originator - Disc Code - Doc Type - Serial No. 10112936 - PB - R -DAS - 0002				

1	SERVICE / P&ID NUMBER	Sea Water Cooling Pumps		M6-WL-00001
2	MANUFACTURER / MODEL / TYPE OF PUMP	*	*	*
3	TAG NUMBERS	WL-MP-115A/B		
4	QUANTITY	2 (Note 4)		
5	LIQUID PUMPED			
6	FLUID	Sea Water		
7	TEMPERATURE: RATED / MINIMUM / MAXIMUM (°C)	11	3.1	13
8	SPEC. GRAVITY / VISCOSITY / VAPOR PRESS.: @ DESIGN TEMP (-- / ssu / bara)	1	5.87	0.0127
9	PUMP PERFORMANCE			
10	NPSHA @LWL/NPSHR @ RATED FLOW/NPSHR @ MAX. FLOW (m)	*(Note 3)		*(Note 2)
11	FLOW: RATED / MINIMUM / MAXIMUM (m ³ /hr)	17,340	*	*
12	PUMP TOTAL HEAD: RATED / SHUTOFF (m)	21		*
13	HYDRAULIC THRUST: RATED / MAXIMUM / UP (kg)	*	*	*
14	RPM / ROTATION (VIEW FROM MOTOR FACING PUMP) / SPECIFIC SPEED	*	*	*
15	PUMP EFFICIENCY: @ RATED CONDITIONS (%)	*		
16	PUMP BRAKE HORSEPOWER: RATED CONDITIONS / MAX CONDITION (kW)	*		*
17	MAXIMUM ALLOWABLE NOISE LEVEL (PUMP AND MOTOR) (dBA @ m)	85	@	1m
18	SUCTION SPECIFIC SPEED @ BEP FLOW: @ NPSHA / @ NPSHR	*		*
19	PUMP CONSTRUCTION			
20	IMPELLER DIAMETER: RATED / MINIMUM / MAXIMUM (mm)	*	*	*
21	MAXIMUM WORKING PRESSURE / HYDROTEST PRESSURE (barg)	*		*
22	CLEARANCE: WEAR RING / BEARING / IMPELLER (OPEN) (mm)	*	*	*
23	SUCTION BELL DIAMETER / PUMP SHAFT DIAMETER (mm)	*		*
24	DISCHARGE: SIZE / FLANGE RATING / FACING / POSITION (mm / -- / -- / --)	*	*	*
25	BASEPLATE REQUIRED / SOLE PLATE REQUIRED	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
26	BEARING TYPE	*		
27	BEARING LUBE: TYPE / FLOW / PRESSURE (-- / m ³ /hr / barg)	*	*	*
28	SHAFT SEAL: TYPE / CONNECTION / COOLING FLOW (-- / -- / m ³ /hr)	*	*	*
29	COLUMN: DIAMETER / THICKNESS (mm)	*		*
30	LINESHAFT: DIAMETER / BEARING SPACING (m)	*		*
31	SHAFT ENCLOSURE TUBE: DIAMETER / THICKNESS (mm)	*		*
32	ROTOR FIRST CRITICAL SPEED / WR ² (rpm / kg-m ²)	*		*
33	MATERIAL / ASTM NUMBER			
34	SUCTION BELL /BOWL	Duplex SS A890 Gr. 4A	Duplex SS A890 Gr. 4A	
35	IMPELLER / IMPELLER LINER	Duplex SS A890 Gr. 4A	Duplex SS A890 Gr. 4A	
36	SHAFT SLEEVE: BEARING / STUFF BOX	*	*	
37	WEAR RINGS: BOWL / IMPELLER	*	*	
38	COLUMN / DISCHARGE HEAD	Duplex SS	Duplex SS (wetted part) and Cathodic prot, CS w/Epoxy (non-wetted part)	
39	SHAFT ENCLOSURE TUBE	*		
40	LINESHAFT / PUMPSHAFT	Duplex SS	*	
41	SLEEVE BEARING : BOTTOM / BOWL / COLUMN	*	*	
42	COUPLING			
43	MANUFACTURER /TYPE: (RIGID/FLEXIBLE) / GUARD	*	*	*
44	WEIGHT			
45	TOTAL / PUMP / MOTOR (kg)	*	*	*
46	EXAMINATION AND TESTING	<input checked="" type="checkbox"/> ULTRASONIC	<input type="checkbox"/> MAG. PART.	<input checked="" type="checkbox"/> LIQ. PEN.
47		<input checked="" type="checkbox"/> HYDROSTATIC	<input checked="" type="checkbox"/> PERFORMANCE	<input type="checkbox"/> NPSH <input type="checkbox"/> FIELD
48	DRIVER - TYPE	(Note 5)		
49	MANUFACTURER / RATING / SPEED / SERVICE FACTOR (-- / kW / rpm / --)	*	*	*
50	BEARING DESCRIPTION / THRUST RATING (kg)	*		*
51	LUBRICATION: THRUST / RADIAL / COOLING	*	*	*
52	TOTAL COMBINED PUMP/ MOTOR POWER REQUIRED: TARGET (kW)	*		*
53	TOTAL COMBINED PUMP/ MOTOR POWER REQUIRED: GUARANTEE (kW)	*		*


NOTES:

- Seller shall replace all * (asterisks) and incomplete check boxes with appropriate information. Does not relieve the Seller from performance responsibilities.
- The available NPSH is at impeller eye, assuming that eye is 0.3 to 0.4 times bell diameter above bell bottom for minimum suction water level.
- Approximate basin elevations: Top of concrete +2m; Wet pit invert (-)8.5m; Minimum water level (-)1.5m.
- Pumps and motors will be located outdoors in a sea coast environment.
- See Sheet 3 for motor electrical requirements.
- Seller shall include vibration monitoring equipment.

	PRELIMINARY VERTICAL SEA WATER COOLING PUMPS (MPVW)	Job No.: 25474-000
	CO2 KARSTO PROJECT	DS No.: 3SD-MPVW-00001
		Rev. 0
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		SEA WATER COOLING PUMPS
Item No	Description	Requirement
1	TYPE	Induction
2	VOLTAGE	6.6 kV
3	PHASE	3
4	FREQUENCY (Hz)	50 Hz
5	STARTING VOLTAGE	80 to 105% Nominal Voltage
6	INSULATION CLASS	F
7	TEMP RISE (°C @ RATING)	Limited to 80 C
8	STARTING CURRENT	Limited to 5 times
9	PULL OUT TORQUE @ FULL VOLTAGE	At least 200% of rated
10	NO. OF STARTS - HOT	2
11	NO. OF STARTS - COLD	3
12	MOTOR ENCLOSURE	IP54
13	COOLING	TEFC
14	RTDS	6 Phase (Two Per Phase) and 2 Bearing
15	BEARING TYPE	Sleeve
16	DIFFERENTIAL CURRENT TRANSFORMERS	Yes
17	INVERTER DUTY	Yes
18	PLUG-IN TERMINALS	Yes (Fully Insulated Suitable for 25 kA Fault Current)
19	TERMINAL BOX ENCLOSURE	IP55
20	SOUND LEVEL	Not to Exceed 80 dB @ one Meter
21	BEARING TYPE	Same Style As Driven Equipment
22	QUALITY STANDARD	ISO 9001:2000 or Equivalent
23	ROUTINE TEST PER IEC 60034	YES
24	INSULATION RESISTANCE TEST	FOR WINDINGS, RTDS AND BEARINGS
25	FULL LOAD LOSS AND EFFICIENCY TEST	YES
26	LOCKED ROTOR TEST	YES
27	OVER SPEED	YES
28	VIBRATION	YES
29	NOISE	YES
30	WITHSTAND VOLTAGE TEST	YES
31	TEMPERATURE RISE TEST AT FULL LOAD	YES (2 FREQUENCY TEST MAYBE USED)
32	COIL IMPULSE TEST	Yes, 10 % additional coil to be produced and randomly tested for impulse with increasing voltage until breakdown

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